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| APPLICATION NO. | FILING DATE. | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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LOWE HAUPTMAN GILMAN AND BERNER, LLP
1700 DIAGONAL ROAD
SUITE 300 /310
ALEXANDRIA, VA 22314

EXAMINER

CHUNG, PHUNG M

| ART UNIT | PAPER NUMBER |
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2133

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,769

Applicant(s)

SVED ET AL.

Examiner

Phung My Chung

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/31/01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Art Unit: 2133

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-8, 13-17 and 30-37, are rejected under 35 U.S.C. 102(a) as being anticipated by Morley et al (EP 0 984 451 A1).

As per claims 1, 7, 13-17, Morley et al disclose the invention substantially as claimed, comprising:

an input means for receiving data and dividing it into a number of blocks of data;

a means for adding to each of the blocks of data error detection/correction data to provide each block of data with a predetermined error detection/correction capability;

at least one data writer for writing the blocks of data to one or more storage devices;

at least one data reader for reading back data written to the one or more storage devices and transferring the data from the at least one data reader to an error checking means, the error checking means being arranged to determine whether or not there are any errors in a block of data., if so, determining whether the number of errors exceeds a predetermined number and outputting a signal if the number of errors in a block of data exceeds the predetermined number. (See pg. 10, lines 1-21 and pg. 8, lines 53-54).

As per claim 2, the teaching of Morley et al had been discussed above. They further disclose: wherein the data retrieval means includes error correction element, and the error detection/correction data added to the blocks of data is such that it provides

Art Unit: 2133

the data retrieval means with error correction element with the capability to detect/correct up to X errors in a block of data. (See pg. 6, line 46).

As per claim 3, this claim is also rejected under the same rationale as set forth in claims 1 and 2.

As per claims 4-6, these claims are also rejected under the same rationale as set forth in claim 1.

As per claim 8, the teaching of Morley et al had been discussed above. They further disclose: wherein the control means is arranged to rewrite a block of data only in the event that it contains more than the predetermined number of errors. (Pg. 8, lines 53-54).

As per claims 30-37, these methods claims are also rejected under the same rationale as set forth in the apparatus claims 1-8 and 13-17.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9-12 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (EP 0 984 451 A1) in view of Bartlett et al (EP 0 957 484 A1).

As per claims 9, the teaching of Morley et al had been discussed above. They do not specifically disclose a plurality of parallel tracks by means of which a number of blocks of data are simultaneously written across the one or more

storage device. However, Barlett et al disclose a plurality of parallel tracks by means of which a number of blocks of data are simultaneously written across the one or more storage device. (See pg. 5, line 1-3). Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the plurality of parallel tracks which data are simultaneously written across the storage device as taught by Barlett et al into the invention of Morley et al to reduce times writing data to the storage device.

As per claim 10, Barlett et al further disclose wherein the error checking means comprises a number of parallel read heads for simultaneously reading back a number of blocks written to the storage devices. (Pg. 5, lines 1-3).

As per claims 11 and 12, Barlett et al further disclose eight parallel tracks, eight parallel read heads. (Pg. 5, line 5 and 33-34).

As per claims 35-36, these method claims are also rejected under the same rationale as set forth in the apparatus claims 9-10.

5. Claims 18, 21 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (EP 0 984 451 A1) in view of Brown et al (5,576,903).

As per claims 18, and 21, the teaching of Morley et al had been discussed above. They do not disclose a history store means for storing output results of error checking information. However, Brown et al do disclose such a storage history. (See col. 13, lines 21-23). Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to

incorporate a storage history for storing failure data as taught by Brown et al into the invention of Morley et al so that failure data can be retrieved for fixing later.

As per claim 38, this method claim is also rejected under the same rationale as set forth in the apparatus claim 18.

6. Claims 19-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (EP 0 984 451 A1) in view of Brown et al (5,576,903) as applied to claims 18 and 38 above, and further in view of Bartlett et al (EP 0 957 484 A1).

The teaching of Morley et al and Brown et al had been disclosed above. They do not specifically disclose a plurality of tracks wherein the respective tracks are adapted to write the blocks of data in a set to the storage devices substantially simultaneously. However, Bartlett et al disclose a plurality of tracks wherein the respective tracks are adapted to write the blocks of data in a set to the storage devices substantially simultaneously. Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate the teaching of a plurality of tracks wherein the respective tracks are adapted to write the blocks of data in a set to the storage devices substantially simultaneously as taught by Bartlett et al into the invention of Morley et al and Brown et al to reduce times writing data to the storage device.

7. Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al (EP 0 984 451 A1) in view of Brown et al (5,576,903) and Bartlett et al (EP 0 957 484 A1) as applied to claims 18 and 38 above, and further in view of Saeki et al (6,581,184).

Art Unit: 2133

The teaching of Morley et al, Brown et al and Bartlett et al had been discussed above. They do not specifically disclose at least two quality of bits relating to each block of data in a set of "01", "10" and "11" such as one error, more than one error or no errors. However, Saeki et al disclose at least two quality of bits relating to each block of data in a set of "01", "10" and "11" such as one error, more than one errors or no error. (See col. 21, lines 50-55). Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to incorporate at least two quality of bits relating to each block of data in a set of "01", "10" and "11" such as one error, more than one errors or no error as taught by Saeki et al into the invention of Morley et al, Brown et al and Bartlett et al so that errors can be corrected depend on the types of errors detected.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung My Chung whose telephone number is 703-305-9686. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


PHUNG M. CHUNG
PRIMARY EXAMINER